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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,060	01/15/2002	Mutsumi Kimura	111668	2963
25944	7590	09/22/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			QI, ZHI QIANG	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

10/045,060

Applicant(s)

KIMURA, MUTSUMI

Examiner

Mike Qi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,6-23 and 26-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,6-22,26 and 27 is/are allowed.
- 6) ☒ Claim(s) 23,28 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 12, 2004 has been entered.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 23 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,025,894 (Shirasaki et al) in view of US 6,133,976 (kimura).

Claims 23 and 28-29, Shirasaki discloses (col.7, line 17 – col. 17, line 4; Fig.1) a display apparatus (11), i.e., an electro-optical device, comprising: a plurality of pixels, and each pixel comprising an electroluminescence element (12) and a liquid crystal element (22), and according to the condition of use in bright environment or the condition of use in dark environment, selectively driving the electroluminescence element (12) is disabled or is activated, and selectively driving the liquid crystal cell, i.e.,

different pixels, so as to display image. The first and the second electro-optical element can be any kind of electro-optical element, even the different pixels, and in order to display image, the different pixels selectively to be driven. Therefore, the electroluminescence element and liquid crystal element for displaying image are selectively driving based on a condition such as the condition of use in bright environment (using liquid crystal element) or the condition of use in dark environment (using electroluminescence element).

Shirasaki does not explicitly disclose that the electroluminescence element used for displaying image (to display image), and selectively driving the electroluminescence element and liquid crystal element.

However, Kimura discloses (col. 20, line 46 – col.21, line 14; Fig.35) that a method of driving an electro-optical device in which using a selection pulse of a row selection signal ( $V_g$ ), information of a "1" level or a "0" level is written from an information signal  $V_d$  into TR1 of an MOS-FET, such that if the information signal is '1' level, the device TR2 goes to conducting state, then the EL layer (70) goes to conducting state, so that the EL layer emits light; and if the information signal is '0' level, the device TR2 goes to non-conducting state, then the EL layer (70) goes to non-conducting state, so that the EL layer does not emits light. Kimura also discloses (col.20, lines 46-53; Fig.35 and col.21, lines 16-43; Fig.36) that an EL element is utilized for light modulation, i.e., using EL element for displaying image.

Since Kimura discloses that the light intensity signal as '1' level or "0" level and setting the EL layer a usage condition to emit light or not to emit light, and using

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switching device such as TR1 and TR2 to provide the information signal so as to set the usage condition for the EL element, such that the electronic apparatus using such control method and control device would reduce the power consumption and light usage more efficiently between the dark environment and the bright environment. Kimura also indicates (col.22, lines10-13) that the light utilization efficiency is enhanced and the picture element density is kept high so as to obtain a high-definition display.

Therefore, it would have been obvious to those skilled in the art at the time the invention was made to use electroluminescence element and liquid crystal element selectively driving to display image as claimed in claims 23 and 28-29 for enhancing the light utilization efficiency and obtaining a high-definition display.

***Allowable Subject Matter***

3. Claims 1, 3, 6-22, 26-27 are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record neither discloses nor teaches an electro-optical device comprising various elements as claimed, more specifically, as the following:

both the electroluminescence element and the liquid crystal element are controlled by the switching element [claim 1, as shown in Fig.1];

both of the electroluminescence element (EL) layer and the liquid crystal element (LC) layer being placed above the switching element layer, and the liquid crystal

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element being placed above the electroluminescence element layer [claim 3, as shown in Fig.1];

The closest reference US 6,025,894 (Shirasaki et al) discloses an electro-optical device comprising electroluminescence element, liquid crystal element and switching element, but the prior art of record do not disclose such electro-optical device having both of electroluminescence element (EL) and liquid crystal element(LC) located above the switching element, and the EL element share the electrodes with the liquid crystal element (LC), and both of the electroluminescence element (EL) and liquid crystal element(LC) are controlled by the switching element (TFT) as claimed in claims 1 and 3 and as shown in Fig.1.

### ***Response to Arguments***

5. Applicant's arguments filed on Jun.15, 2004 have been fully considered but they are not persuasive.

Applicant's arguments are as follows:

1) The references do not disclose using electroluminescence as a display element of a pixel.

Examiner's responses to Applicant's arguments are as follows:

1) The reference Kimura discloses (col.21, lines 16-43; Fig.36) that electroluminescence element (85) is utilized for light modulation (image display).

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Qi whose telephone number is (571) 272-2299.

The examiner can normally be reached on M-T 8:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Qi  
March 4, 2004

  
TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER